

Jean Dominique Larrey and his recognition in Mexico

Jean Dominique Larrey y su reconocimiento en México

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Abstract

The figure of Jean Dominique Larrey, military surgeon who participated in the Napoleonic wars, is analyzed. The objectives of the study are to highlight their contributions, including the creation of ambulances that allowed the injured to be given prompt assistance. Also note the postmortem recognition that Larrey had in Mexico through an academic group founded by the surgeon Francisco Montes de Oca y Saucedo. The facts cited show the progress of military surgery, its institutionalization and professionalization, as well as the communication and updating of knowledge in one and another continent.

Keywords: Larrey. Military surgery. Ambulances. Scientific societies.

Resumen

Se analiza la figura de Jean Dominique Larrey, cirujano militar que participó en las guerras napoleónicas. Los objetivos de estudio consisten en destacar sus aportaciones, entre ellas la creación de las ambulancias que permitieron dar una pronta asistencia al herido. Asimismo, señalar el reconocimiento post mortem que Larrey tuvo en México a través de una agrupación académica fundada por el cirujano Francisco Montes de Oca y Saucedo. Los hechos citados muestran el progreso de la cirugía militar, su institucionalización y profesionalización, así como la comunicación y la actualización de saberes en uno y otro continente.

Palabras clave: Larrey. Cirugía militar. Ambulancias. Sociedades científicas.

Introduction

Jean Dominique Larrey (1766-1842), whose name is linked to the military history of France, was a surgeon who participated in the Napoleonic wars and went down in history for several facts: for providing assistance to the wounded on the battlefield, for optimizing surgical methods (including the amputation technique), for his teaching activities, and fundamentally for devising ambulances for the war-wounded. All these facts

were important at the time and appreciated not only in public health but also in the military field, in particular by French emperor Napoleon (1769-1821), who awarded him a distinction. Larrey's knowledge and skills crossed borders, to the extent that many years after his death, he was recognized in Mexico. Military physician Francisco Montes de Oca y Saucedo (1837-1885) paid tribute to him through an academic association and a journal published in Mexico City in 1875. This text shows Larrey's contributions, who was a skillful

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and intelligent man who contributed to the progress of surgery in war scenarios, and addresses his recognition in Mexico.

Biographical data

Jean Dominique Larrey was born in Beaudéan, a village located in the Hautes-Pyrénées. Delving into his family life, it is well understood why it oriented his vocation toward surgery. Larrey was orphaned at 13 years of age; his grandfather was a barber-surgeon in Tarbes, a French city near his hometown, and his uncle Alexis served as a surgeon at Saint-Joseph de la Grave Hospital, in Toulouse, where Larrey went to learn the art of surgery and graduated at 19 years of age. Subsequently, he worked as a navy physician, but soon he resigned to move to Paris, where surgeons were joining forces to defend their guild interests to achieve a status similar to that of physicians. With the creation of the Royal Academy of Surgery in 1731, surgeons became independent from barbers, and years later, in 1768, they claimed that surgery was not a manual labor but a science¹. Thus, the French capital became the seat of medical-surgical progress, and it was precisely there that Larrey worked under the direction of Pierre Joseph Desault, a key figure at the Academy of Surgery, a skilled surgeon at Dieu Hotel and a professor of figures who were to become notorious health professionals, including Xavier Bichat, Jean Nicolas Corvisart, and Larrey himself (Fig. 1)².

Larrey became involved in the French Revolution. Immersed in the popular movements of July 1789, he led more than 1000 surgeons and students who participated in the uprisings that would lead to the storming of the Bastille on July 14. Shortly after, he joined Hôtel des Invalides to collaborate as an assistant to famous surgeon Raphael Sabatier³.

In 1792, he joined the French Navy, and thus, he participated in countless battles until 1815. Subsequently, he devoted himself to teaching at Val de Grâce military medical school in Paris, as associate professor of anatomy and surgery. He later assisted disabled soldiers admitted to Hôtel des Invalides, where in 1830, he was appointed surgeon-in-chief.

As a military surgeon, Larrey performed important surgical procedures and devised war ambulances. He died in 1842, at age 76, in the city of Lyon, as a consequence of a bronchopneumonia. He was buried in Père Lachaise, the cemetery of the French capital that houses funerary monuments of many famous figures,

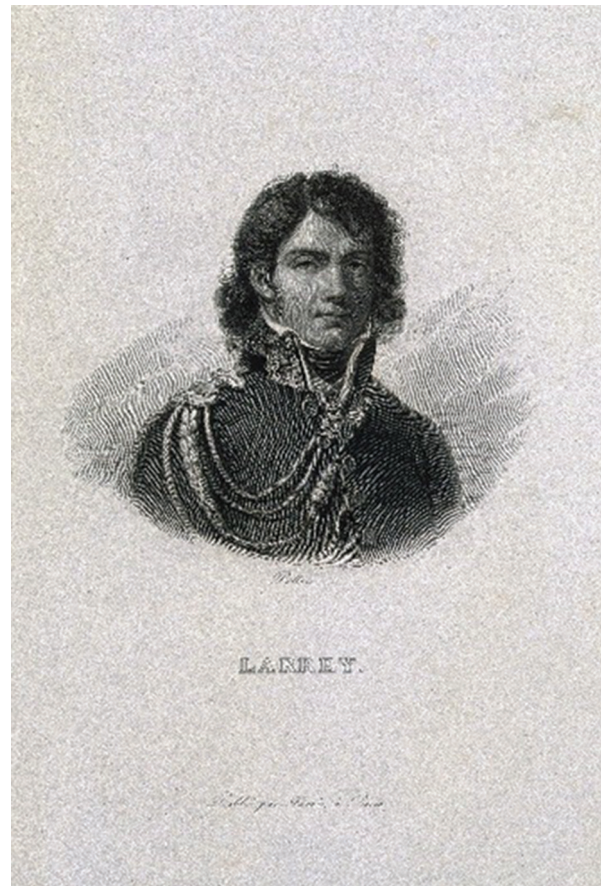


Figure 1. Jean Dominique Larrey, surgeon of the Napoleonic army (Wellcome Collection).

including Frederic Chopin, Auguste Comte, and Jean-François Champollion. Over time, Larrey's wishes were fulfilled, as in 1992, the French Society of History of Medicine moved his remains to Les Invalides⁴.

Historical context

As a surgeon in training, Larrey lived in very interesting and enlightening times. On the one hand, medicine enjoyed significant progresses: Morgagni laid the scientific bases for anatomopathological studies, disease prevention became important, the smallpox vaccine was introduced by Edward Jenner, Philippe Pinel freed the mentally ill from chains, Xavier Bichat developed the anatomoclinical method, and, among many other events, academies and practical surgery schools were created, which drove to equality between doctors and surgeons in France and other European countries.

Larrey witnessed the moment when surgery influenced internal medicine, whose scientific basis was

the morphological drawings of anatomoclinical pathology², which led the specialist to realize that his work should lean on experimental research. However, the surgeon of late 18th and early 19th centuries was a skilled man who worked with the limitations of surgery, pain, hemorrhage, and infection, which were not to be overcome until the second half of the latter century.

On the other hand, as Hippocrates would say, war is the surgeon's best school¹, and it could be, therefore, said that Larrey had an excellent training. Immersed in an environment of anguish and pain, he came to realize the multiple elements demanded by military surgery, since in addition to the assistance of the wounded and sick, he also contemplated their mobilization to certain relief stations on the same battle front, their prompt and effective attention, sufficient provision of supplies, the training of health personnel, and the adoption of preventive measures².

From 1792 on, when Larrey was appointed military surgeon, he participated in countless military campaigns. When the Franco-Austrian war broke out, Larrey, with the rank of surgeon major, was part of the French army that settled on the Rhine. He later joined other campaigns against the Russian Empire, the Spanish Kingdom, the Italian Kingdom, and many others. In fact, in the Napoleonic wars, he took part from the Egyptian campaign to Waterloo, which left complex wounds caused by projectiles.

In 1798, Napoleon granted Larrey the position of chief surgeon, under which he participated in more than 400 combats, in some of which he was wounded. This fact did not prevent Larrey from meticulously providing care to his patients and from practicing more than 200 interventions, between amputations and disarticulations, in a single day, at the Battle of Borodino, in Russia². In addition, he was appointed Inspector General of the Army in 1805 (Fig. 2)⁵.

With the Waterloo defeat, Larrey was taken prisoner under the command of the Prussians and sentenced to death. When he was about to be executed, he was recognized by two people, a German doctor who had attended his lessons and the son of a Prussian officer wounded by French troops and cared for by Larrey himself, who prevented his death².

Larrey's contributions

From his experience on the battlefield, Larrey claimed that a badly wounded limb should be immediately amputated. An early amputation would be less painful and entail lower risk of hemorrhage and



Figure 2. Emperor Napoleon congratulating Baron Larrey (Wellcome Collection).

infection. Based on Henri Francois Le Dran, Larrey used an amputation technique with incisions at three levels, onto the skin, muscle, and bone, with good results, since he achieved a survival rate of 75%³. Le Dran was a Parisian surgeon of the Charité, author of *raité des opérations de Chirurgie* (1731) and a study on gunshot wounds (1737), among other texts.

To prevent infections and gangrene, Larrey resorted to debridement, removing all necrotic tissue. For abscesses, he resorted to drains, and in case of disseminated infection, he suggested phlebotomy. On the other hand, for the frequent fractures cared for by Larrey, he devised long-lasting bandages that helped immobilizing the limb⁶. In addition, he conducted studies on epidemic and endemic diseases such as the plague, typhoid fever, leprosy, typhus, carbuncles, yellow fever, and tetanus, among others. As a clinician, he made descriptions of scurvy, pes cavus, and contagious eye infections, and devised a gastric tube feeding technique⁷. For head trauma, he practiced trepanations, but only in cases of dura mater or bone fragment injuries beyond the inner table of the skull; otherwise, conservative management was better³. In

vascular surgery issues, Larrey described syphilitic aneurysms and hemostatic mechanisms for arterial lesions; he also mentioned the formation of collateral circulation and that of arteriovenous fistulae in wounds.

On the other hand, Larrey gave lessons in various places and times. In addition to the above-mentioned classes, he taught in Paris, in the French expedition to Egypt (1798-1810), where the Gallic army created a military hospital in Kasr el Aini, Larrey offered a course in childbirth for Egyptian midwives⁶.

In addition, our biography made several contributions to medicine. A real problem was the war-wounded not only because of the injury itself but also because of their location, because they were on the battlefields away from medical services that could not follow the advance of troops. To solve the situation, Jean Dominique Larrey created an efficient means of transport that allowed the wounded to be brought to the nearest aid station and be assisted on the way. This was the “*ambulance volante*,” or closed, ventilated, rectangular ambulance or carriage, which had two wheels and was pulled by horses. The vehicle allowed a stretcher to be introduced for the patient to be transported in the horizontal position. Realizing how quickly Larrey organized the ambulances, Napoleon flattered him by saying: “Larrey, you are almost as ready as I am”⁸. Furthermore, Larrey switched the holsters of the saddles for bags with instruments and bandages (Figs. 3 and 4)⁹.

In addition to Larrey’s surgical contributions, he also left an extensive written work. His narrations or *Mémoires de chirurgie militaire* (1812-1817) give an account of his life and work as a surgeon in the Napoleonic armies. Until before the introduction of anesthesia, surgery was a bloody procedure. Larrey wrote in his memoirs “the emotional chaos for military surgeons exposed to the horrors of war, faced with hopeless complex wounds and injuries, as well as with the heart-breaking pleas of those men who desperately suffered”³. Larrey’s other writings included *Mémoire sur l’ophtalmie régnante en Egypte* (1802), *Relation historique de l’expédition de l’armée d’Orient en Egypte et en Syrie* (1803), *Dissertation sur les amputations des membres a la suite des coups de feu* (1803), *Recueil de mémoires de chirurgie* (1821), *Considération sur la fièvre jaune* (1821), *Clinique chirurgicale* (1829-1836), *Mémoire sur le cholera-morbus* (1831), *Copie d’un mémoire sur le cholera-morbus envoyé à St. Petersburg en janvier* (1831), *Mémoire sur l’extirpation des glandules salivaires* (1841), and

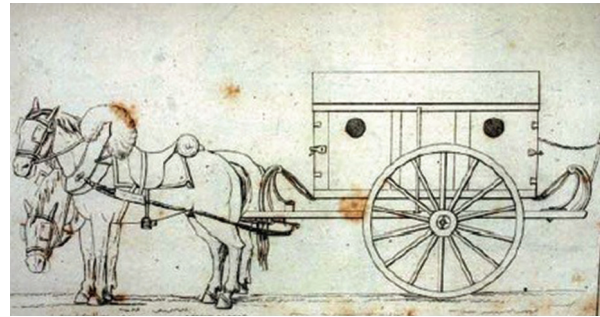


Figure 3. Ambulance devised by Larrey (Fresquet, 2005, www.historiadelamedicina.org/larrey.htm).

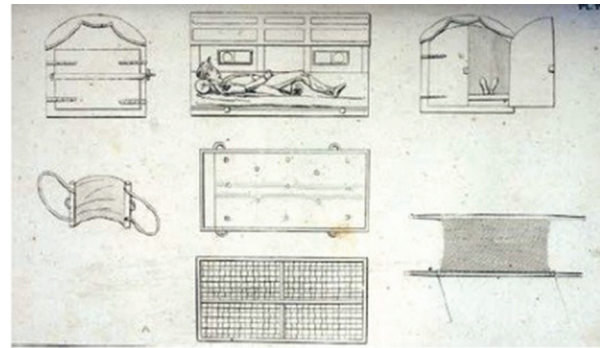


Figure 4. Transport of the wounded in ambulances (Fresquet, 2005, www.historiadelamedicina.org/larrey.htm).

Relation médicale de campagne et voyages de 1815 à 1840 (1841)¹⁰.

Larrey was a surgeon who was loyal to his army, skillful, strategic, had personal initiative, and was eager to learn and instruct. These qualities were recognized by Napoleon, who granted him a distinction. The following fact is famous: in a battle where supplies were scarce, Larrey sacrificed a horse to make a broth for one of his wounded men. When the news broke to the emperor, he ordered Larrey to be called and asked, “Have you dared to kill an officer’s horse to feed a wounded man?” In light of Larrey’s firm affirmative response, Napoleon distinguished him by granting him the title of Baron⁵. Recognition of Larrey was evident again when the emperor wrote in his will: “I bequeath to chief surgeon Larrey one hundred thousand francs. He is the most virtuous man I have ever met.”

Recognition of Larrey in Mexico

On September 9, 1874, Francisco Montes de Oca y Saucedo founded in Mexico City the first academic-scientific group constituted by military physicians in

the country, the Larrey Medical-Surgical Association, which had sessions every fortnight at the Military Hospital and had an official publication, *Anales de la Asociación Larrey*, in homage to our study subject, Jean Dominique Larrey. Only two volumes of the *Annals* were published, in 1875 and 1876.

Montes de Oca, graduated at the National School of Medicine in 1860, was a professor of external clinic, that is, surgical clinic. Within the framework of the Restored Republic, in December 1867, President Benito Juárez appointed him Colonel Sub-inspector of the Military Medical Corps and Director of the Military Hospital of Instruction, located in former San Lucas convent. In 1881, Montes de Oca founded the Medical-Military Practical School, predecessor of the Military School of Medicine. The following year, he was awarded the rank of brigadier general. He belonged to the most important collegiate body in Mexico, the National Academy of Medicine. He left writings in several periodicals, including *Gaceta Médica de México* and *Anales de la Asociación Larrey*. He stood out for his surgical skills, especially leg upper third amputation and shoulder disarticulation, with techniques slightly different from those proposed by Larrey (Fig. 5)¹¹.

The first page of the *Annals* reads: "The Larrey Association is animated by the noblest emulation; its arms are the study of things; its type, Larrey's type. Its heart is friendship; its desire, the progress of the interests he represents; its unique trend, Mexico's medical advancement"¹². And to achieve these ends, the *Annals* published the works the members presented and discussed on the fortnightly sessions, as well as clinical cases of the Military Hospital and translations of foreign articles. Distribution of the journal was broad; it covered domestic and foreign spaces, including France.

To pay homage to the surgeon of the Napoleonic armies, Montes de Oca not only named the newly founded association with Larrey's name but also gave the appointment of first foreign honorary member to Baron Felix-Hippolyte Larrey, son of our subject of study, who on February 18, 1875, wrote a letter to Montes de Oca thanking both the distinction to his father and the deference toward him. In the same document, Félix-Hippolyte Larrey laments the poor diplomatic relations between Mexico and France, and promises to send the Mexican surgeon a medal from his father and the last work he wrote. This was accomplished 4 months later, when in a French steamer that arrived in Mexico came Mr. Paul Bergé, bearer of



Figure 5. Francisco Montes de Oca, president of the Larrey Medical-Surgical Association.

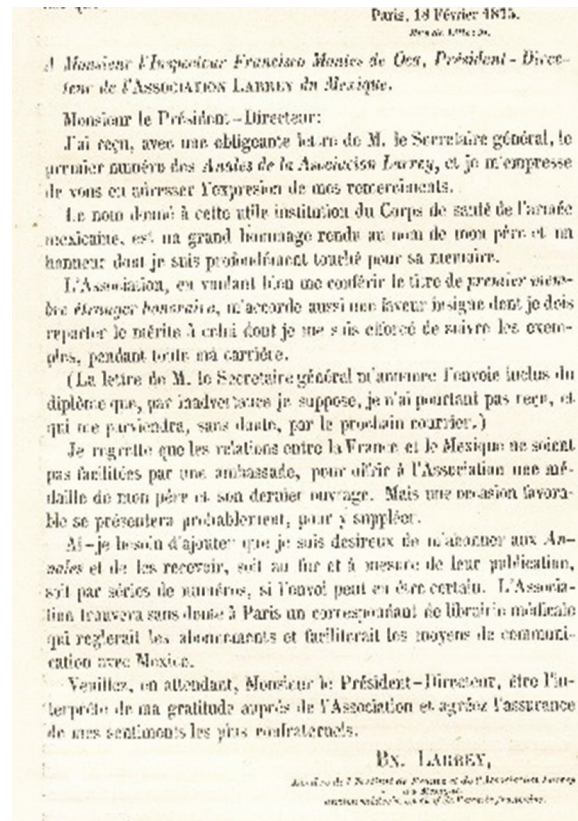


Figure 6. Felix-Hippolyte Larrey letter sent to Francisco Montes de Oca.

a letter that Larrey addressed to Montes de Oca, dated June 13 (Fig. 6) several works by his father, his portrait, and a "precious bronze medal" depicting, on the one hand, a high-relief allegory with "MDCCCXXXVII" inscribed on the back and on the front the bust of the illustrious French surgeon. Surrounding, it reads

“J. D. LARREY NÉ A BAUDÉAN H. (PYRENÉES) LE 8 JI. 1766 MORT LE 25 JI. 1842”¹³.

Baron Felix-Hippolyte Larrey (1808-1895) was also a military physician, dedicated to clinical practice and teaching, and a brilliant surgeon on the battlefield. Among his many contributions, it is worth mentioning that he incorporated portable medical services into war areas, demonstrated the benefits of fixations in fractures after debriding necrotic soft tissues, and thanks to the times he lived in, he was able to initiate the application of anesthesia, particularly ether since 1848, in addition to using antiseptic methods to reduce infections¹⁰.

Communication between Felix-Hippolyte Larrey and Montes de Oca took place in entirely cordial terms, leaving aside the diplomatic problems between France and Mexico, which had been emphasized with the installation of Maximilian of Habsburg empire in Mexican territory from 1864 to 1867. As men of science, they prioritized surgery, which was the most cultivated specialty in the 19th century.

The aforementioned facts show Montes de Oca as a great health professional interested in contributing to the progress of Mexican surgery and not only through clinic and teaching but also through academic societies, such as the one he founded. The Larrey Medical-Surgical Association contributed to professionalization and legitimization of military medicine. Dedicating it to Jean Dominique Larrey meant recognizing that the French school was at the forefront and that military medicine had much to contribute; for this reason, he consecrated many pages to this topic on the *Larrey Annals*.

Final comments

Located in different spaces and times, two military surgeons have been studied. The main one, Jean Dominique Larrey, who was an exemplary figure, a skilled war surgeon who provided not only surgical techniques strictly speaking, such as amputation and limb disarticulation, but also prompt assistance of the wounded, valuation of time, for which he created ambulances that could transport the injured to aid stations on the very battlefield. Immersed in this war environment, Larrey always placed before the humanism that must characterize health specialists, since he even provided care to the wounded of the opposing army.

Larrey's recognition occurred at his time and after his death. The highest recognition was given to him by Emperor Napoleon by granting him the appointment of

Baron. Sometimes later, and crossing borders, he was distinguished in Mexico by the also skilled surgeon Francisco Montes de Oca who found the exact point at which amputation of the pelvic limb and disarticulation of the thoracic limb should be practiced. Montes de Oca showed his interest in disseminating science and especially surgery. He participated in the academic community through writings and groupings by means of which his work was professionalized and recognized as part of modern science. Montes de Oca showed his admiration toward French surgery, to the figure of Larrey, whom he wanted to eternize by assigning his name to the association he founded. However, things went further, given that he contacted the son of the Napoleonic army's surgeon, who showed his gratitude to Montes de Oca in multiple ways, with all these facts being published in *Larrey Annals*, which constituted a “luxurious periodical full of interest,” as considered by doctor Francisco Flores¹⁴ and that was read by the medical elite in Mexico of the 19th century.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

References

1. Porter R. Breve historia de la medicina. De la Antigüedad hasta nuestros días. Trad. I. Cifuentes y T. Carretero. México: Santillana; 2004.
2. López JM, Balaguer E, Ballester R. La cirugía en el Romanticismo. En: Laín P, editor. Historia Universal de la Medicina. Tomo V. Ilustración y romanticismo. Barcelona, España: Salvat; 1978. p. 295-301.
3. De la Garza L, Dominique Jean Larrey. La cirugía militar de la Francia revolucionaria y el Primer Imperio. Cirujano General. 2003;25:359-66.
4. Fresquet JL. Dominique Jean Larrey (1766-1842). Disponible en: <http://www.historiadelamedicina.org/larrey.htm>
5. Guthrie DA. History of medicine. London, Great Britain: Thomas Nelson & Sons; 1946.
6. Guerra F. Historia de la medicina. Madrid, España: Norma-Capitel; 2007.
7. Lyons A, Petrucelli J. Historia de la medicina. Tomo II. Barcelona, España: Doyma; 1982.
8. Manero V. El barón Larrey. Anales de la Asociación Larrey. 1876;II:97-9.
9. Cervantes AP, Ruiz JO. Lesiones de guerra en situaciones emergentes de la vida civil. México: Alfíl S.A. de C.V.; 2011.
10. Moreno A. Dominique-Jean y Félix-Hippolyte Larrey: el legado de dos cirujanos (padre e hijo). Revista Hispanoamericana de Hernia. 2014;2:23-32.
11. Guarnier V. Francisco Montes de Oca y Saucedo, destacado cirujano en el México del siglo XIX. Revista de la Facultad de Medicina de la UNAM. 2010;53:24-9.
12. La Redacción. Anales de la Asociación Larrey. 1875;I:1.
13. Obsequio del Barón Larrey. Anales de la Asociación Larrey. 1875;I:186.
14. Flores F. Historia de la medicina en México desde la época de los indios hasta la presente. Tomo III. Edición facsimilar de 1888. México: Instituto Mexicano del Seguro Social; 1982.